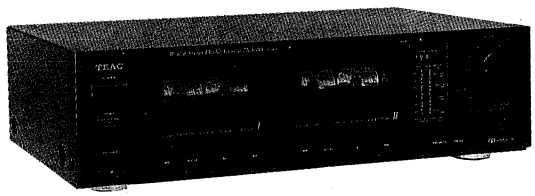
TEAC®



SERVICE MANUAL

W-470

Stereo Double Cassette Deck

CAUTION

⚠Parts maked with this sign are safety critical components.
They must always be replaced with identical components—refer to the appropriate parts list and ensure exact replacement.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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Effective: JULY, 1989

9103003100

1. SPECIFICATIONS AND SERVICE DATA

SPECIFICATIONS

Track System 4-track, 2-channel stereo
Heads Play I: Playback *1
REC/PLAY II: Erase *1, Record/Playback *1
Type of Tape Cassette tape, C-60 and C-90 (philips type)
Tape Speed 4.76 cm/s(1-7/8 ips), 9.5cm/s(3-3/4ips);
(Hi speed Dubbing)
Input (level and impedance)
LINE IN: Specified input level: -9dB (275 mV)/50 kohms
Min.input level: -19dB (86.9mV)
Output (level and load impedance)
OUTPUT: Spec. output level: -3dB (548mV)
PHONES: Spec. output level: -19dB (86.9mV)/8 ohms
Equalization
METAL: 3180μS+ 70μS
CrO2: 3180μS+ 70μS
NORMAL: 3180μS+ 120μS
Head Configuration
1/2-track, 1-channel erase head
1/4-track, 2-channel record/playback head
Motor PLAY I: 1 DC servo motor,
REC/PLAY II: 1 DC servo motor
Bias Frequency 100kHz
Operation Position Horizontal
Power Requirements
120/220/240 V AC,50/60Hz (General Export Models)
120 V AC,60Hz (U.S.A/Canada)
220 V AC,50Hz (Europe)
240 V AC,50Hz (U.K./Australia)
100 V AC,50Hz (JAPAN)
Power Consumption 12W
Weight 4.7kg (10.36 lbs)
Dimensions (W*H*D)
435*127*262mm
(17-1/8"*5"*10-5/16")

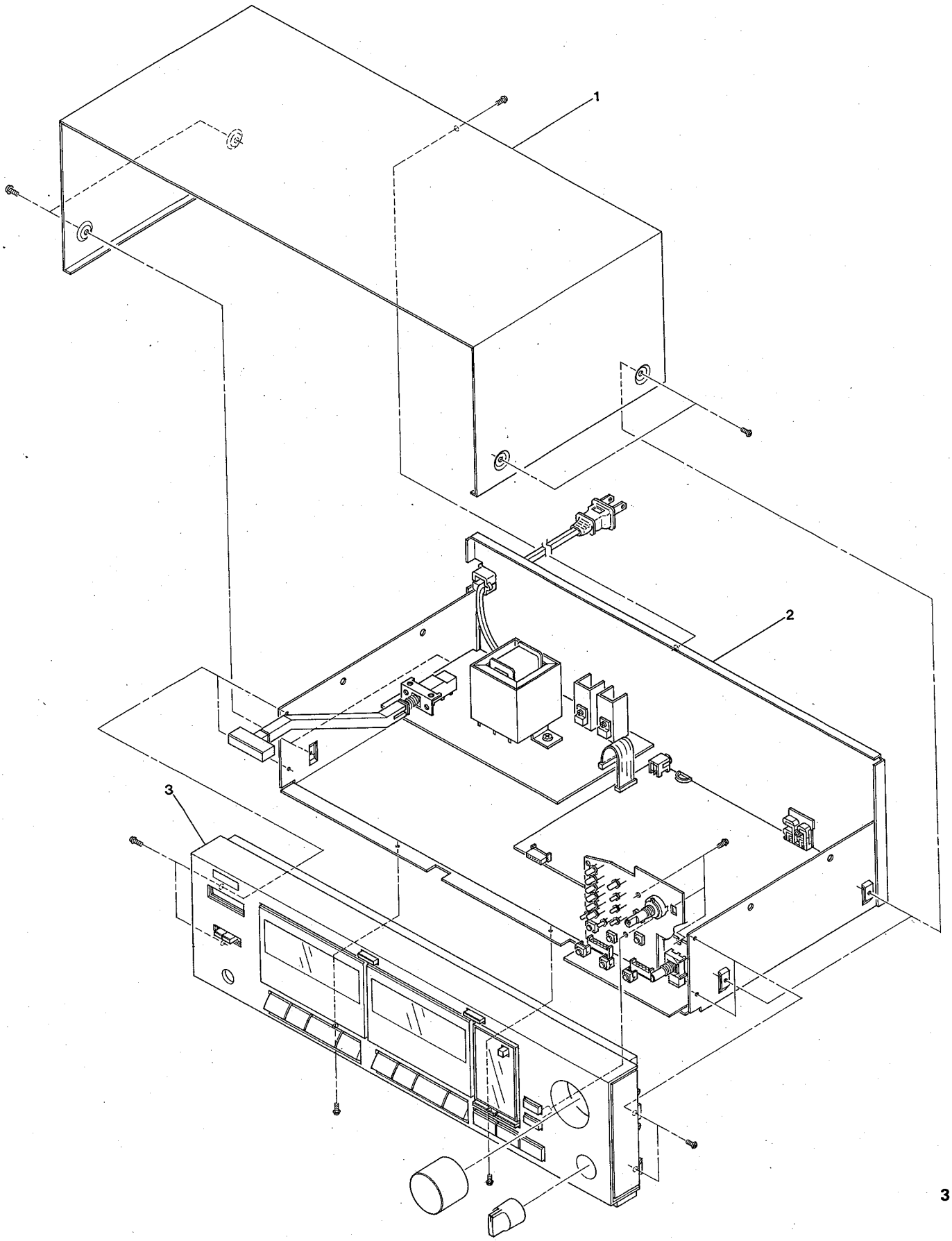
NOTES:
Improvements may result in SPECIFICATIONS AND SERVICE DATA chanfes.
Value of "dB" in the data refers to 0 dB (0.775 V), expect where Specified.

SERVICE DATA

MECHANICAL
Tape Speed Deviation 3,000 Hz +90,-90 Hz,6000 Hz+180, -180 Hz
Tape Speed Drift 45 Hz (LOW SPEED),90Hz (HIGH SPEED)
Wow and Flutter
Playback: 0.30 % (WRMS)
Pinch Roller Pressure 250 g to 470 g (8.8oz to 16.5 oz)
Reel Torque
Take-up: 35 to 70 g-cm (0.49 to 0.97 OZ-inch)
Supply: 2.5 to 6 g-cm (0.035 to 0.083 OZ-inch)
F.F: 70 to 160 g-cm (0.97 to 2.22 OZ-inch)
REW: 70 to 160 g-cm (0.97 to 2.22 OZ-inch)
Fast Wind Time
125 sec or less for MTT-5511 (C-60)
Auto End-stop Time 5 sec. or less

ELECTRICAL
Frequency Response
See Figs. 5-7 & 5-9
Signal-to-noise Ratio
Playback: NORMAL: 46 dB min.
Record/Playback
METAL, CrO2: 45 dB min.
NORMAL: 44 dB min.
Erase Efficiency
65 dB min. at 1 kHz (measured with input 10 dB higher than the specified input level).
Channel Separation 30 dB min. at 1 kHz
Adjacent Track Crosstalk 40 dB min. at 125 Hz
Total Harmonic Distortion 2.0 % or less with NORMAL
2.5 % or less with CrO2,METAL

2 CASE AND FRONT PANEL REMOVAL



3 PARTS LOCATION

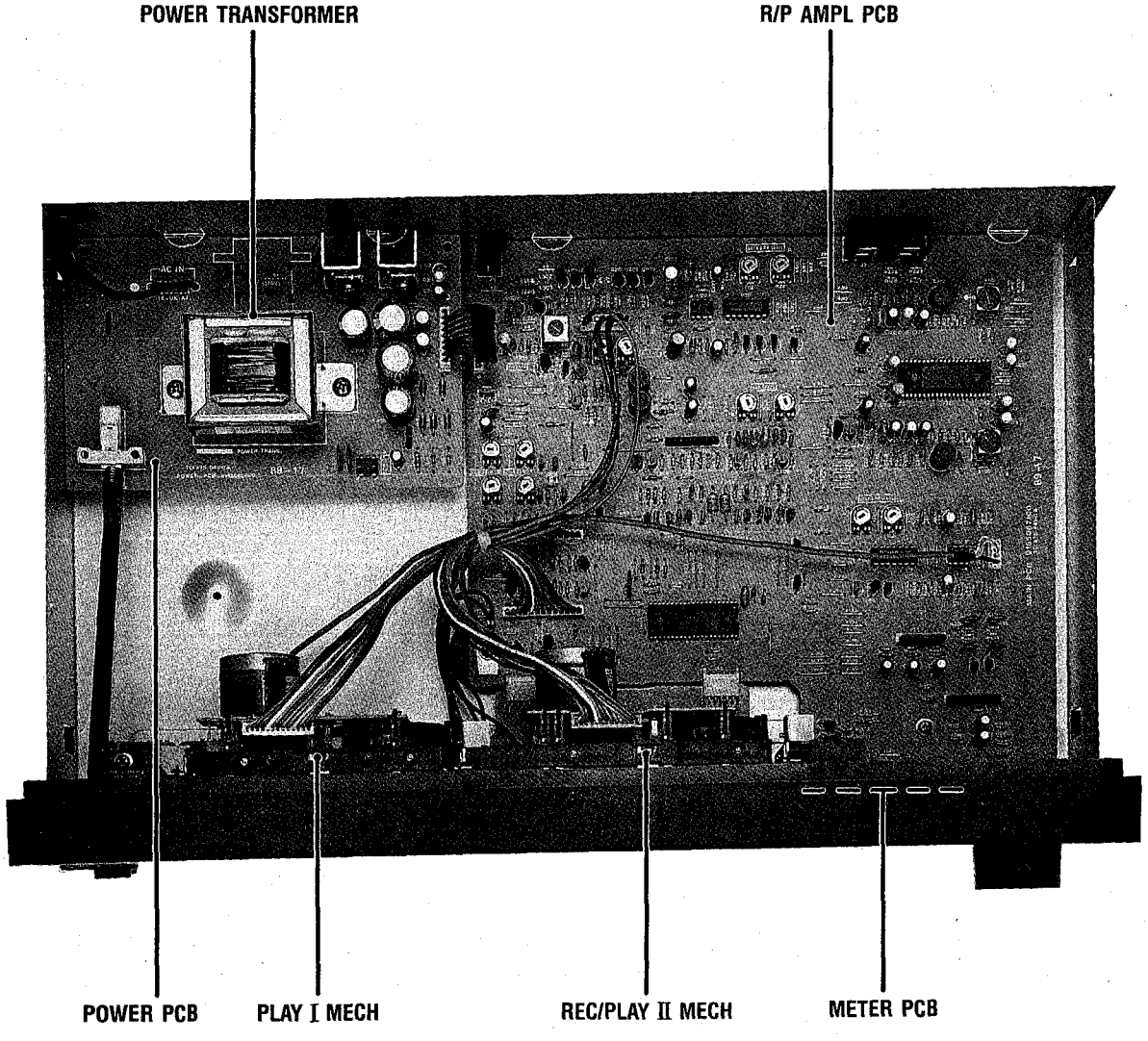


Fig. 3-1 Top view (W-470)

4 MECHANICAL ADJUSTMENT AND CHECKS

4-1 WOW AND FLUTTER

Note: This measurement should be made at the begining, middle, and the end of the tape.

PLAYBACK

1. Connect a wow-and-flutter meter to the deck as shown in Fig. 4-1.
2. Load and play a TEAC MTT-111 test tape.
3. Check that the reading on the wow-and-flutter meter is within 0.38% (RMS).

4-2 TAPE SPEED

1. Connect a frequency counter to the deck as shown in Fig. 4-1.
2. Simply press POWER switch to ON to rotate the motor, then continue the motor rotation for approx. 1 minute for warmp-up.
3. As soon as the warm-up finishes, load a TEAC MTT-111 test tape with a 3,000 Hz test tone and play the end of the test tape.
4. Adjust each variable resistor to get the following figures.
   Short TP (SPEED ADJ) to get the double tape speed (HIGH speed). Never press TAPE SPEED switch to HIGH position.

	Adjustment point		Adjustment value
PLAY I	HIGH speed	R31	6020 ~ 6040
	LOW speed	R32	3010 ~ 3020
REC/PLAY II	HIGH speed	R33	6000 ~ 6020
	LOW speed	R34	3000 ~ 3010

* At first, adjust NORMAL tape speed.

5. In play mode, check that the following figures are obtained at the beginning and at the end of the tape.

	LOW speed	HIGH speed
Speed deviation	3000 Hz +90, –90 Hz	6000 Hz +180, –180 Hz
Speed drifting	Within 45 Hz	Within 90 Hz

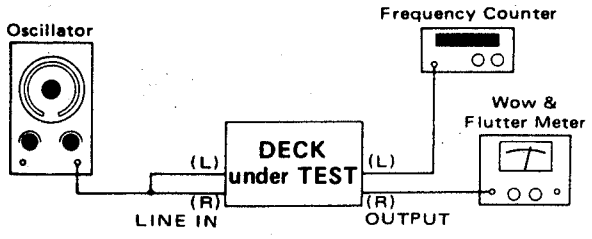


Fig. 4-1

4-3 REEL TORQUE

1. Load the cassette torque meter on the deck and read the pointer indication on the dial scale for each tape transport operation. The measured torque should be within the following specified values:

   Specifications:

   Take-up: 35~70g-cm (0.49~0.970 oz-inch)
   Supply: 2.5~6.0g-cm (0.035~0.083 oz-inch)
   F.F./REW: 70~160g-cm (0.970~2.22 oz-inch)

4-4 LUBRICATION

Lubrication is only required when parts are replaced. For this purpose, use the oil specified below.

Oil: TEAC spindle oil (from TEAC TZ-255 oil kit),
Mobil D.T.E. Oil Light, or equivalent

Apply a drop of oil with an oil applicator to a point about 1/3 the way down the shaft (from the free end) of the flywheel, then insert the shaft into the capstan housing.

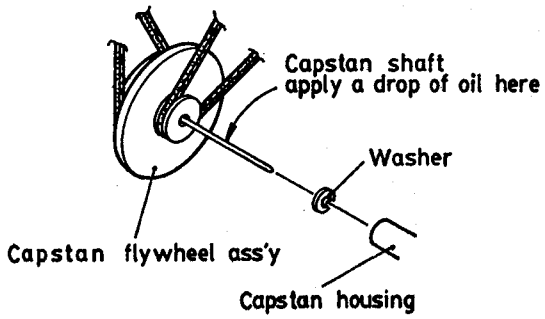


Fig. 4-2

4-5 VOLTAGE CONVERSION (General Export Models only)

1. ALWAYS DISCONNECT THE POWER LINE CORD BEFORE MAKING THESE ADJUSTMENTS!
2. Locate the voltage selector on the rear panel.
3. Using a regular screwdriver, turn the selector until the numerals corresponding to the voltage requirements of your area appear.

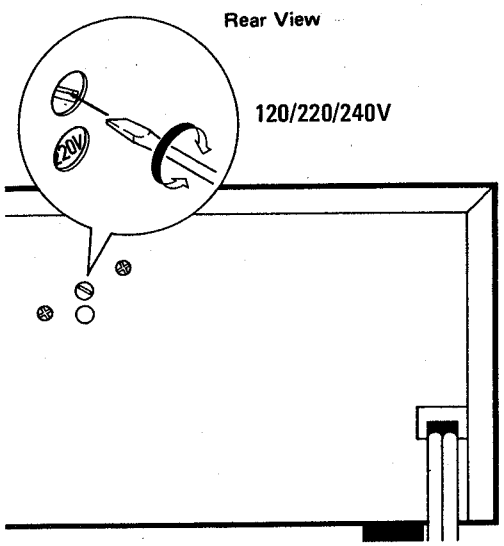


Fig. 4-3

5 ELECTRICAL ADJUSTMENT AND CHECKS

PRECAUTIONS

1. Before performing adjustments and checks clean and demagnetize the entire tape path.
2. Make sure the deck is properly set for the voltage in your locality.
3. In general, adjustments and checks are made in the order of L-ch then R-ch. Double REF. Nos. and test point designations indicate L-ch/R-ch. (Example: R11/R21)
4. 0 dB is referenced to 0.775 V. If an AC voltmeter that references 0 dB to 1 V is used, appropriate compensation should be made.
5. The AC voltmeter used in the procedures must have an input impedance of 1 M-ohmes or more.
6. Note the "Deck settings" at the top of each chart. The settings apply to all check for a specific chart unless explicitly stated otherwise.
7. Since this deck has an automatic tape selector, be sure to use test tapes that have tape position detecting holes.

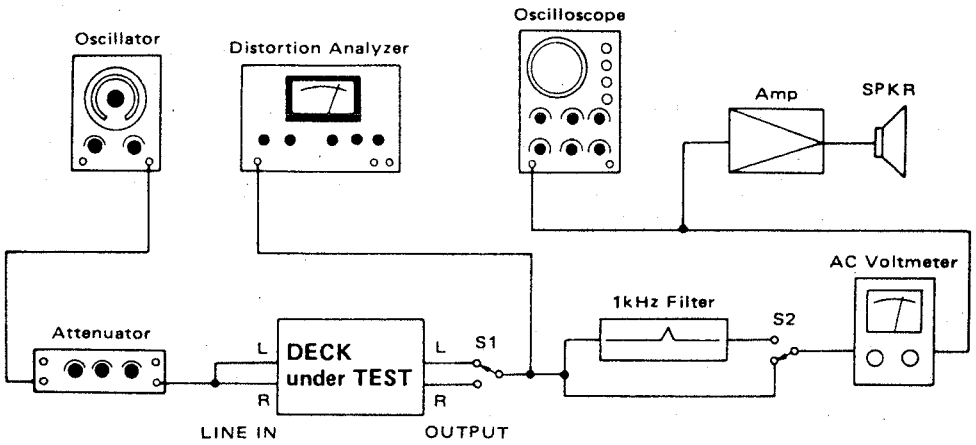


Fig. 5-1 Basic test setup

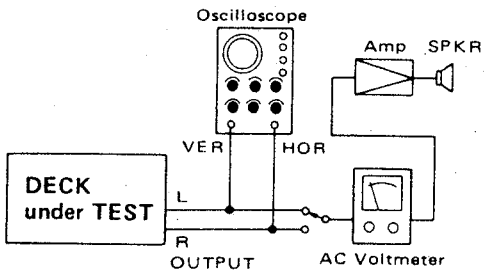


Fig. 5-2 Test setup for azimuth check

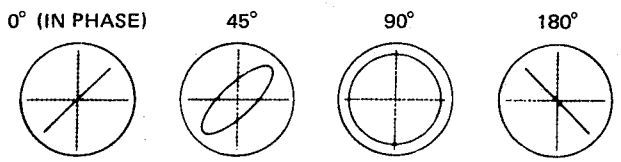


Fig. 5-3 Confirming phase relationship

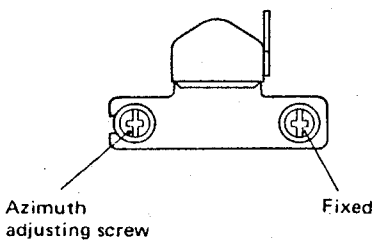


Fig. 5-4 Azimuch screw location

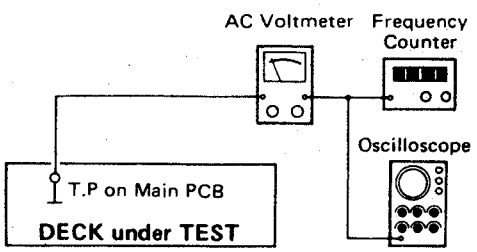


Fig. 5-5 Test setup for bias adjustment

5-2 PLAYBACK PERFORMANCE

TEAC test tapes:
MTT-150C: For Dolby level calibration
MTT-256: For playback frequency response check for NORMAL
MTT-356: For METAL and CrO2
MTT-5511: For S/N check with NORMAL

Deck settings:
DOLBY NR sw: OUT

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
1. REC/PLAY head azimuth	Connection:Fig. 5-2	MTT-150C	CHECK	OUTPUT: Phase: within 45°	Refer to Fig. 5-3
		MTT-256 (10 kHz)	Azimuth screws or R-P head (Fig. 5-4)	OUTPUT: Max. output at L & R-ch's (on VTVM)	
2. Specified output level	Connection: Fig. 5-1	MTT-150C	R11/R21 (PLAY I) R12/R22 (REC/PLAY II)	T.P. (DOBLY) 245mV (-10dB)	
	Connection: Fig. 5-1	MTT-150C	Check	OUTPUT: -3dB ± 1 dB (489 to 615 mV)	
3. Frequency response	NORMAL	MTT-256	Check	OUTPUT:Fig. 5-7	
	CrO2	MTT-356	Check	OUTPUT:Fig. 5-7	
4. Signal-to-noise ratio S/N	Tape:MTT-5511 Play mode	Fully erased MTT-5511 tape (Use bulk tape eraser)	Check	OUTPUT: 46 dB min.	Ratio of spec. output level -3 dB to noise

5-3 MONITOR PERFORMANCE

Deck settings:
RECORD-PAUSE mode
DOLBY NR sw: OUT

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
5.Min. input level	RECORDING LEVEL cont (L/R): MAX	MIC:400Hz/-67 dB (346 μV) LINE IN :400Hz/ -19 dB (86.9mV)	Check	OUTPUT: -3 dB ± 3 dB (388mV to 775mV)	MIC min. input level LINE min. input level
6.Specified LINE input level	———	LINE IN: 400 Hz/-9 dB (275mV)	RECORDING LEVEL cont. (L/R)	OUTPUT: -3dB ± 1dB (489 to 615mV)	
	IMPORTANT:Do not change the setting of the RECORD LEVEL controls after establisting setting as above				
7.Headphone output level	Connection:Fig. 5-6	LINE IN: 400Hz/-9 dB (275mV)	Check	PHONES: -19 dB ± 3dB (61.5mV to 122mV	8 ohm load

5-4 RECORDING PERFORMANCE

Deck settings:
DOLBY NR sw: OUT
RECORDING LEVEL cont. (L/R):
Specified position (item 5)

TEAC recording test tapes:
MTT-5571: For METAL
MTT-5561: For CrO2
MTT-5511: For NORMAL

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
8. BIAS osc.	Connection: Fig. 5-5 Tape:MTT-5511 RECORD/PAUSE mode	LINE IN: No signal	L301	T.P L/R (BIAS) 100 kHz on frequency counter	Specified bias frequency
9. Record bias	Tape: MTT-5511 RECORD/PLAY mode	LINE IN: 400 Hz & 10 kHz alternately/ -42dB (6.15mV) Record and reproduce them.	R14/R24	OUTPUT: Nearly equal level at both frequencies	Repeat if the result is unsatisfactory
10.Record level	Tape: MTT-5511	LINE IN: 400 Hz/-12 dB (195mV) Record and reproduce them.	R13/R23	OUTPUT: -6 dB (388mV)	
	Tape: MTT-5561 Tape: MTT-5571 NR SYSTEM: IN & OUT		Check	OUTPUT: -6 dB ± 1.5 dB (327 mV to 461 mV)	
11.Frequency response	Tape: MTT-5511 Tape: MTT-5561 Tape: MTT-5571	LINE IN: Required frequencies: -42 dB (6.15mV)	Check	Standard: Fig.5-8 to Fig.5-9	If out of spec. recheck # 9
12.Signal-to-noise ratio	Tape: MTT-5571 Tape: MTT-5561 Tape: MTT-5511	LINE IN: 1kHz/-9dB (275mV) ↓ no signal	Check	OUTPUT: 45 dB min. [METAL,CrO2] 44 dB min. [NORMAL]	Ratio of specified output level: -3 dB to noise

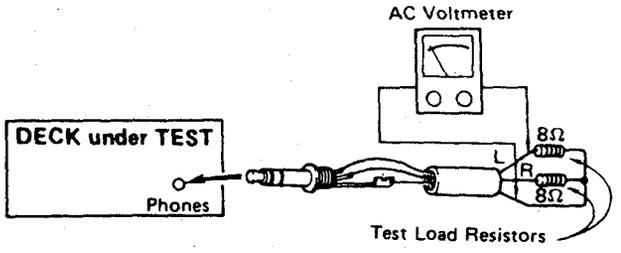


Fig. 5-6 Test setup for headhone check

5-5 FREQUENCY RESPONSE

5-5-1 PLAYBACK

Tape: MTT-256 (NORMAL)

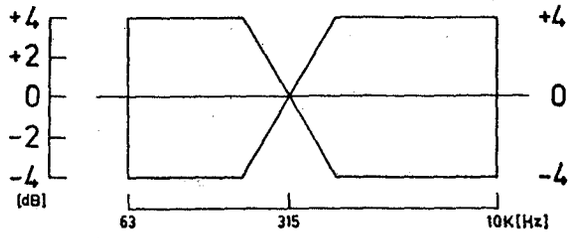


Fig. 5-7 Playback frequency response

5-5-2 OVERALL

Tape: MTT-5511 (NORMAL)
Tape: MTT-5561 (CrO_2)
Tape: MTT-5571 (METAL)

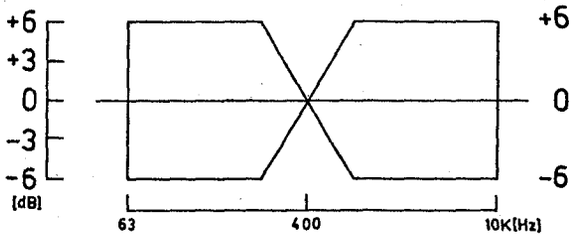


Fig. 5-8 Overall frequency response (Dolby NR: IN)

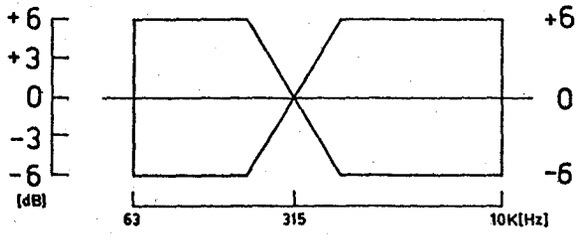


Fig. 5-9 Overall frequency response (Dubbing: Low/High speed)

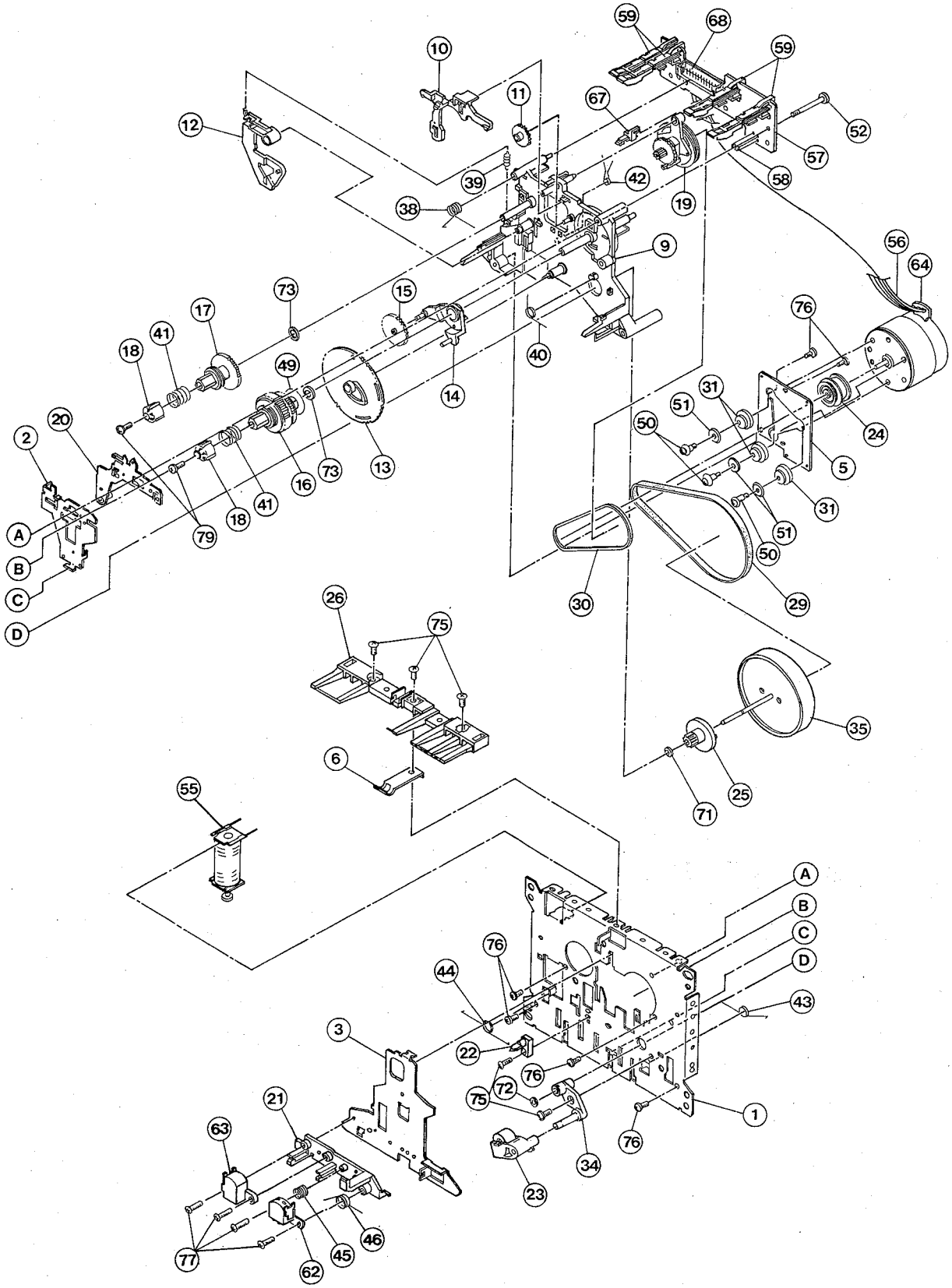
PARTS LIST SECTION

NOTES:

1. As regards the resistors and capacitors, refer to the circuit diagrams and the PCB ass'y drawings included in this brochure.
2. parts marked with ⚠ this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

6 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW-1



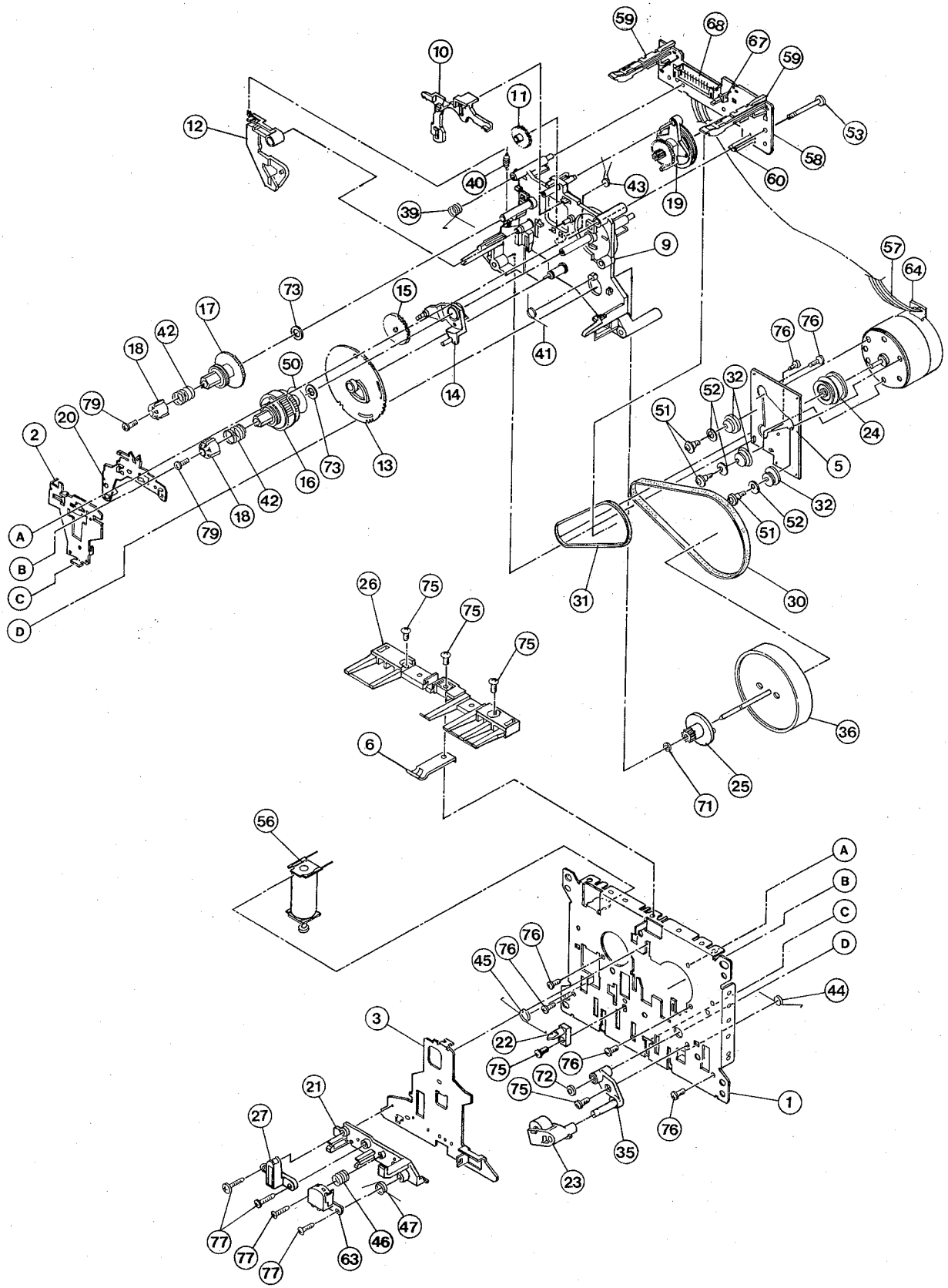
EXPLODED VIEW-1

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
1-1	9278295000	CHASSIS	
1-2	9278295100	SHIFT LEVER	
1-3	9278295200	HEAD CHASSIS	
1-5	9278295400	MOTOR BKT	
1-6	9278295500	PACK SPRING	
1-9	9278295600	MECHA BASE	
1-10	9278295700	BRAKE ARM	
1-11	9278295800	FF GEAR	
1-12	9278295900	TRIGGER ARM	
1-13	9278296000	PLAY CAM GEAR	
1-14	9278296100	PLAY ARM	
1-15	9278296200	PLAY GEAR	
1-16	9278296300	REEL ASSY (T)	
1-17	9278296400	REEL (S)	
1-18	9278296500	REEL CAP	
1-19	9278296600	CLUTCH ASSY	
1-20	9278296700	SELECT ARM	
1-21	9278296800	HEAD BASE	
1-22	9278296900	CASSETTE GUIDE	
1-23	9278297000	P ROLLER ASSY	
1-24	9278297100	MOTOR PULLEY (C)	
1-25	9278297200	FLYWHEEL GEAR	
1-26	9278297300	SW PROTECTOR	
1-29	9278297500	DRIVE BELT (C) φ59.6*3.5*0.5t	
1-30	9278297600	CLUTCH BELT (C) φ38.6*1.2	
1-31	9278225100	MOTOR CUSHION	
1-34	9278297800	HOUSING ASSY	
1-35	9278297900	FLYWHEEL	
1-38	9278298000	BRAKE ARM SPRING	
1-39	9278298100	TRIGGER ARM SPRING	
1-40	9278298200	PLAY ARM SPRING	
1-41	9278298300	REEL SPRING (B)	
1-42	9278298400	CLUTCH ARM SPRING	
1-43	9278298500	SHIFT LEVER SPRING	
1-44	9278298600	HEAD CHASSIS SPRING	
1-45	9278226000	HEAD SPRING	
1-46	9278298800	P ROLLER SPRING	
1-49	9278298900	REFRECT SEAL	
1-50	9278227600	MOTOR SCREW	
1-51	9278229200	WASHER (B)	
1-52	9278299200	SPECIAL SCREW M2.6*24	
1-55	9278299300	SOLENOID ASSY	
1-56	9278299400	MOTOR WIRE (B)	
1-57	9278299500	MECHA PCB	
1-58	9278299700	PHOTO REFRECTOR (NJL5165K)	
1-59	9278299600	REC SWITCH	
1-62	9278299800	RP HEAD (SS15R-AA4N1)	
1-63	9278300900	E HEAD (LE15A-C1)	
1-64	9278299900	MOTOR (EG530KD-2B)	
1-67	9278300000	LEAF SWITCH (LSA-1114F)	

EXPLODED VIEW-1

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
1-68	9278300100	PH CONNECTOR (S13B-PH-K-S)	
1-71	9278191600	POLYSLIDER WASHER 2.1*4*0.25t	
1-72	9278300300	POLYSLIDER WASHER 1.6*6*0.5t	
1-73	9278300400	TEFRON WASHER 4.1*6.5*0.25t	
1-75	9278229500	TAP TITE SCREW M2*4	
1-76	9278300500	BIND TAPPING SCREW M2*6	
1-77	9278230300	BINDING SCREW M2*9.5	
1-79	9278300800	SPECIAL TAP TITE M1.7*6	

EXPLODED VIEW-2



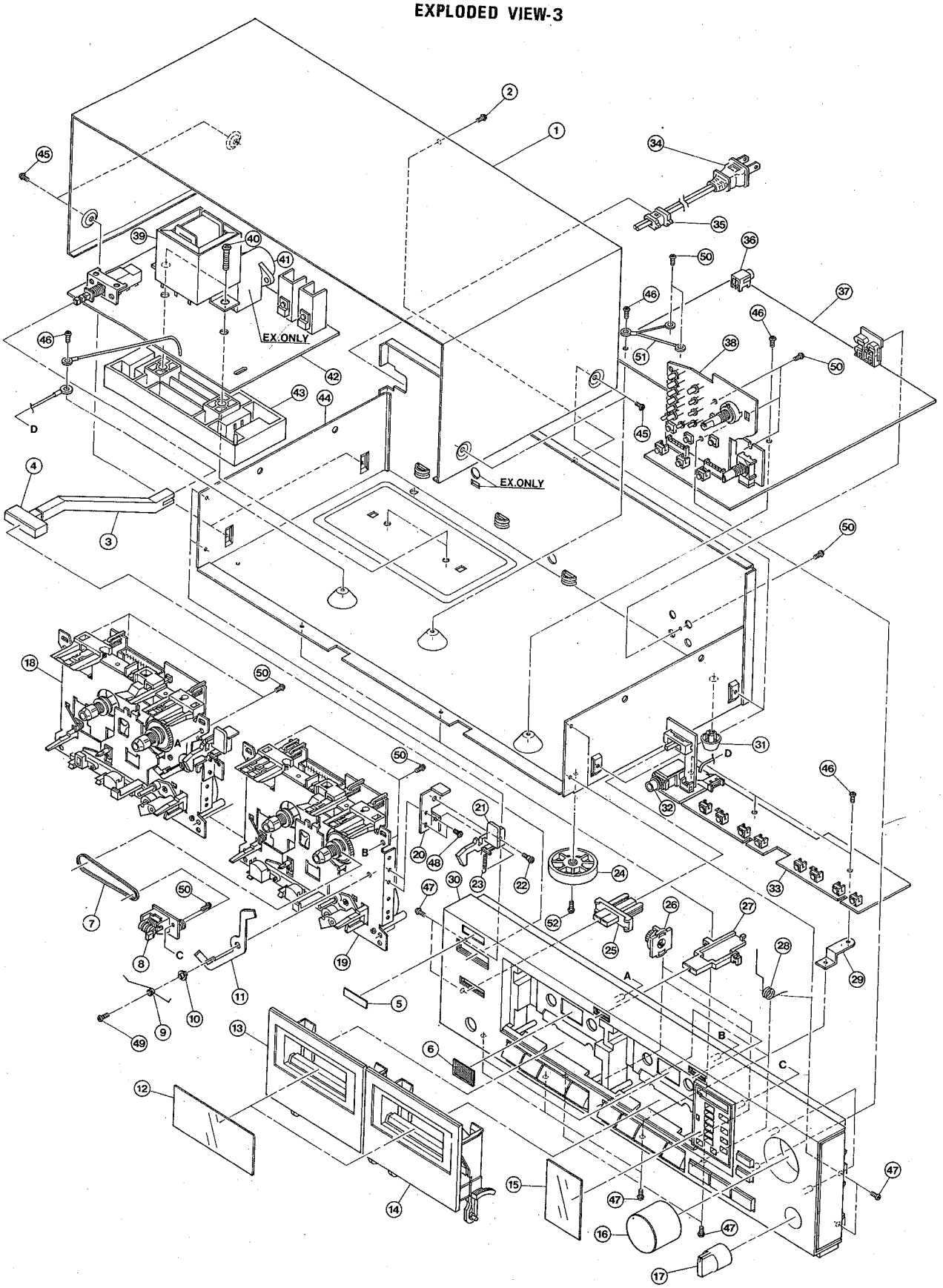
EXPLODED VIEW-2

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
2-1	9278295000	CHASSIS	
2-2	9278295100	SHIFT LEVER	
2-3	9278295200	HEAD CHASSIS	
2-5	9278295400	MOTOR BKT	
2-6	9278295500	PACK SPRING	
2-9	9278295600	MECHA BASE	
2-10	9278295700	BRAKE ARM	
2-11	9278295800	FF GEAR	
2-12	9278295900	TRIGGER ARM	
2-13	9278296000	PLAY CAM GEAR	
2-14	9278296100	PLAY ARM	
2-15	9278296200	PLAY GEAR	
2-16	9278296300	REEL ASSY (T)	
2-17	9278296400	REEL (S)	
2-18	9278296500	REEL CAP	
2-19	9278296600	CLUTCH ASSY	
2-20	9278296700	SELECT ARM	
2-21	9278296800	HEAD BASE	
2-22	9278296900	CASSETTE GUIDE	
2-23	9278297000	P ROLLER ASSY	
2-24	9278297100	MOTOR PULLEY (C)	
2-25	9278297200	FLYWHEEL GEAR	
2-26	9278297300	SW PROTECTOR	
2-27	9278297400	TAPE GUIDE	
2-30	9278297500	DRIVE BELT (C) ϕ 59.6*3.5*0.5t	
2-31	9278297600	CLUTCH BELT (C) ϕ 38.6*1.2	
2-32	9278225100	MOTOR CUSHION	
2-35	9278297800	HOUSING ASSY	
2-36	9278297900	FLYWHEEL	
2-39	9278298000	BRAKE ARM SPRING	
2-40	9278298100	TRIGGER ARM SPRING	
2-41	9278298200	PLAY ARM SPRING	
2-42	9278298300	REEL SPRING (B)	
2-43	9278298400	CLUTCH ARM SPRING	
2-44	9278298500	SHIFT LEVER SPRING	
2-45	9278298600	HEAD CHASSIS SPRING	
2-46	9278226000	HEAD SPRING	
2-47	9278298800	P ROLLER SPRING	
2-50	9278298900	REFRECT SEAL	
2-51	9278227600	MOTOR SCREW	
2-52	9278229200	WASHER (B)	
2-53	9278299200	SPECIAL SCREW M2.6*24	
2-56	9278299300	SOLENOID ASSY	
2-57	9278299400	MOTOR WIRE (B)	
2-58	9278299500	MECHA PCB	
2-59	9278299600	REC SWITCH	
2-60	9278299700	PHOTO REFRECTOR (NJL5165K)	
2-63	9278299800	RP HEAD (SS15R-AA4N1)	
2-64	9278299900	MOTOR (EG530KD-2B)	
2-67	9278300000	LEAF SWITCH (LSA-1114F)	

EXPLODED VIEW－2

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
2-68	9278300100	PH CONNECTOR (S13B-PH-K-S)	
2-71	9278191600	POLYSLIDER WASHER 2.1*4*0.25t	
2-72	9278300300	POLYSLIDER WASHER 1.6*6*0.5t	
2-73	9278300400	TEFRON WASHER 4.1*6.5*0.25t	
2-75	9278229500	TAP TITE SCREW M2*4	
2-76	9278300500	BIND TAPPING SCREW M2*6	
2-77	9278230300	BINDING SCREW M2*9.5	
2-79	9278300800	SPECIAL TAP TITE M1.7*6	

EXPLODED VIEW-3



EXPLODED VIEW-3

F.NO.	PARTS NO.	DESCRIPTION	REMARKS
3-1	9260084800	BONNET	
3-2	9783593008	SCREW C-TITE M3*8(NI-BLK)	
3-3	9260100700	PUSH LINKAGE	
3-4	9260081900	POWER BUTTON	
3-5	5720175500	TEAC EMBLEM	
3-6	5800822400	REFET TAPE	
3-7	9260068200	COUNTER BELT φ52	
3-8	9260102900	TAPE COUNTER SUB ASS'Y	
3-9	9260102600	COLLAR SPRING	
3-10	9260102700	LOCK ARM COLLAR	
3-11	9260102501	EJECT LOCK ARM	
3-12	9260099600	LOADING CASE COVER	
3-13	9260104501	LOADING CASE I	
3-14	9260102801	LOADING CASE II	
3-15	9260103101	METER COVER	
3-16	9260080900	VR KNOB A	
3-17	9260101800	DOLBY KNOB	
3-18	9278256100	MECHANISM PLAY (GTE-5PB1)	
3-19	9278256200	MECHANISM R/P (GTE-5RP1)	
3-20	9260102400	EJECT BRACKET	
3-21	9260102102	EJECT LEVER	
3-22	9260104700	COLLAR SCREW	
3-23	9260102201	EJECT LEVER SPRING	
3-24	9260082400	FOOT ASS'Y	
3-25	9260100000	TIMER KMOB	
3-26	9260077301	DAMPER	
3-27	9260101901	EJECT BUTTON	
3-28	9260102301	SPRING CASE	
3-29	9260101200	PCB BRACKET	
3-30	9260103602	FRONT PANEL ASS'Y	
3-31	9260880000	FOOT	
3-32	9145067601	JACK PCB ASS'Y	
3-33	9145063700	KEY PCB ASS'Y	
3-34	9109025800	AC CORD (UL) SPT-1	
	9109025701	AC CORD (EUR)	
	9109026000	AC CORD (AUS)	
	9109026100	AC CORD (JPN)	
	9109025901	BS CORD	
3-35	9121000100	BUSHING #2271	
3-36	9143229000	MIMIATURE JACK (YKB21-5129)	
3-37	9145067103	MAIN PCB ASS'Y	
3-38	9145067200	METER PCB ASS'Y	
3-39	9125058000	POWER TRANSFORMER (U/C)	
	9125058200	POWER TRANSFORMER (EUR)	
	9125058300	POWER TRANSFORMER (EX)	
	9125058800	POWER TRANSFORMER (JPN)	
3-40	9783204025	SCREW BTT-S M4*25	
3-41	5332019900	VOLTAGE SELECTOR FS908E	
3-42	9145068002	POWER PCB ASS'Y	
3-43	9260100801	PT HOLTER	
3-44	9260104001	MAIN CHASSIS (TAI)	
	9260104101	MAIN CHASSIS (EX)	
	9260104201	MAIN CHASSIS (EUR)	
3-45	9783603008	SCREW BTT-P M3*8	
3-46	9783602608	SCREW BTT-P M2.6*8	

EXPLODED VIEW-3

F.NO.	PARTS NO.	DESCRIPTION	REMARKS
3-47	9783203006	SCREW BTT-S M2*3	
3-48	9783202004	SCREW BTT-S M2*4	
3-49	9783562608	SCREW WTT-S M2.6*8	
3-50	9783603008	SCREW BTT-P M3*8	
3-51	9107031200	GND WIRD	
3-52	9783203008	SCREW BTT-S M3*8	

INCLUDED ACCESSORIES (W-470)

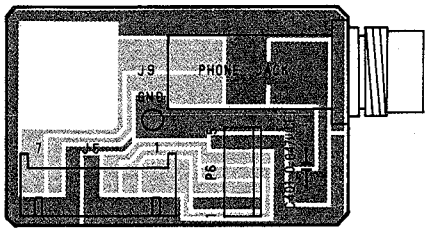
REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
	*9101377801	OWNER'S MANUAL (ENGLISH)	
	*9101378000	OWNER'S MANUAL (JPN)	
	*9101378100	OWNER'S MANUAL (5 MULTI)	
	*9109025100	IN-OUTPUT CORD	

Parts marked with *require longer delivery time.

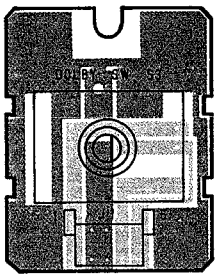
[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA [A]:AUSTRALIA
[GE]:GENERAL EXPORT [J]:JAPAN

7 PC BOARDS AND PARTS LIST

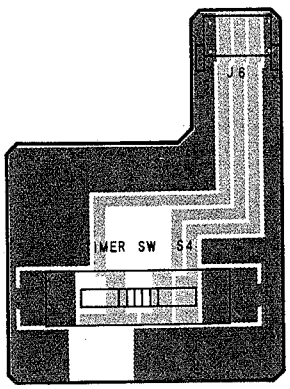
JACK PCB ASSY



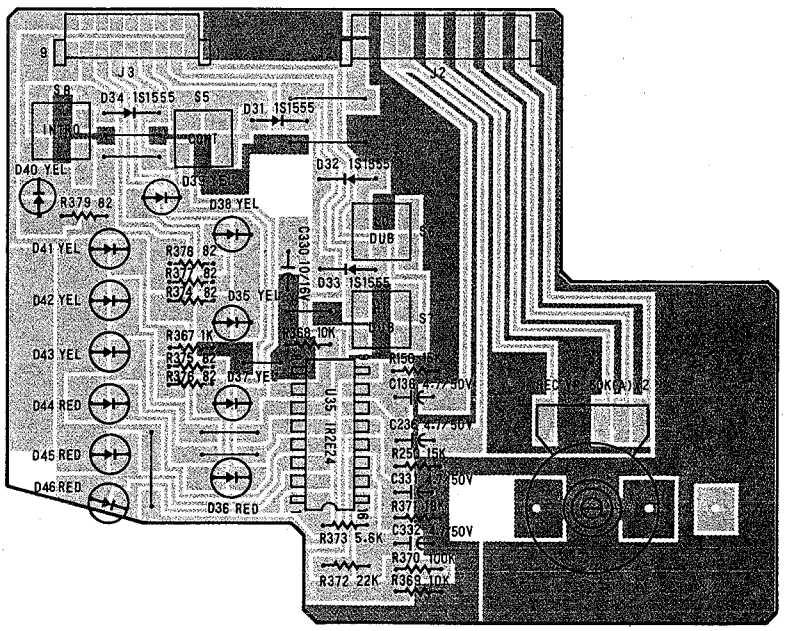
DOLBY SW PCB ASSY



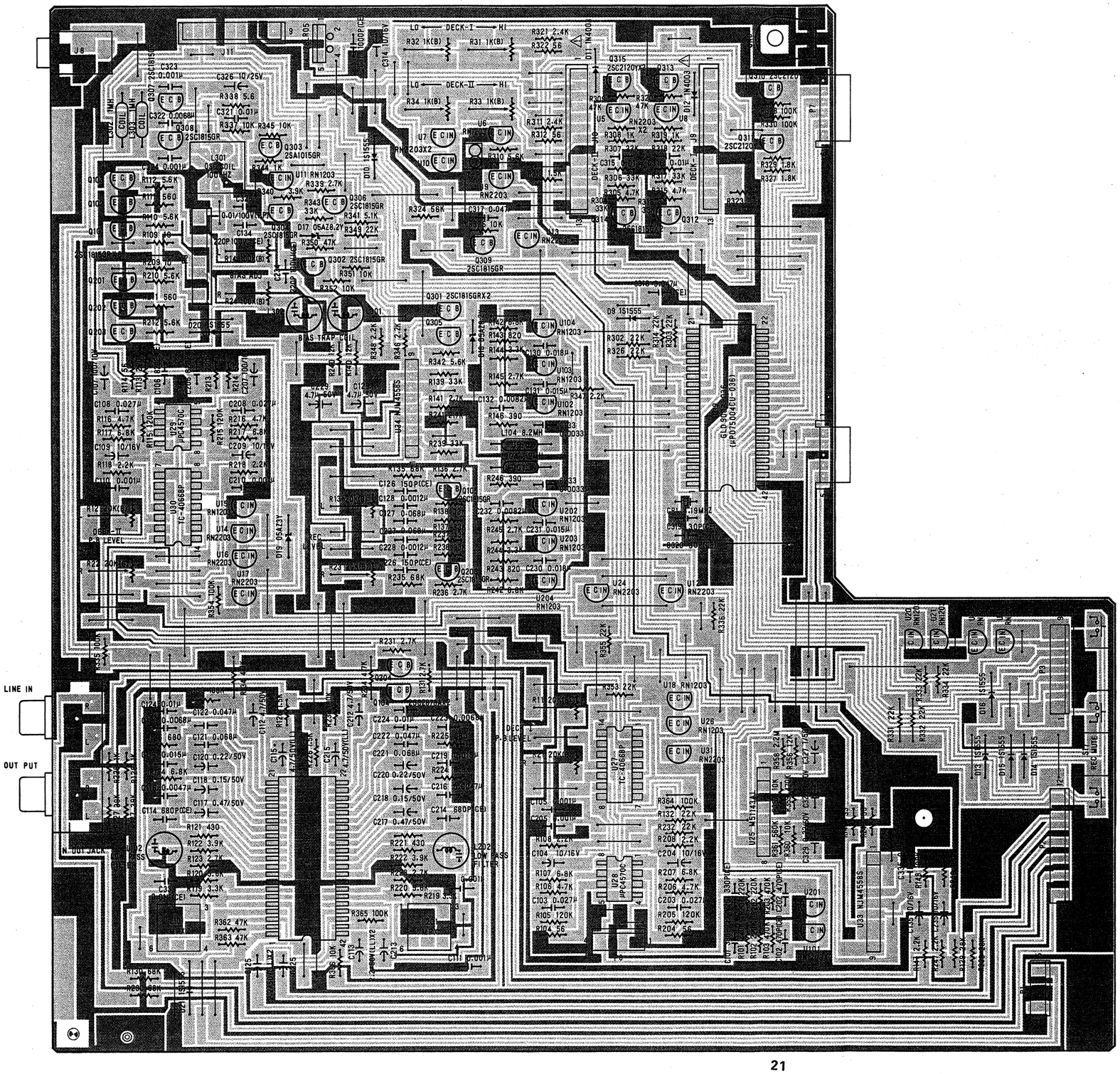
TIMER SW PCB ASSY



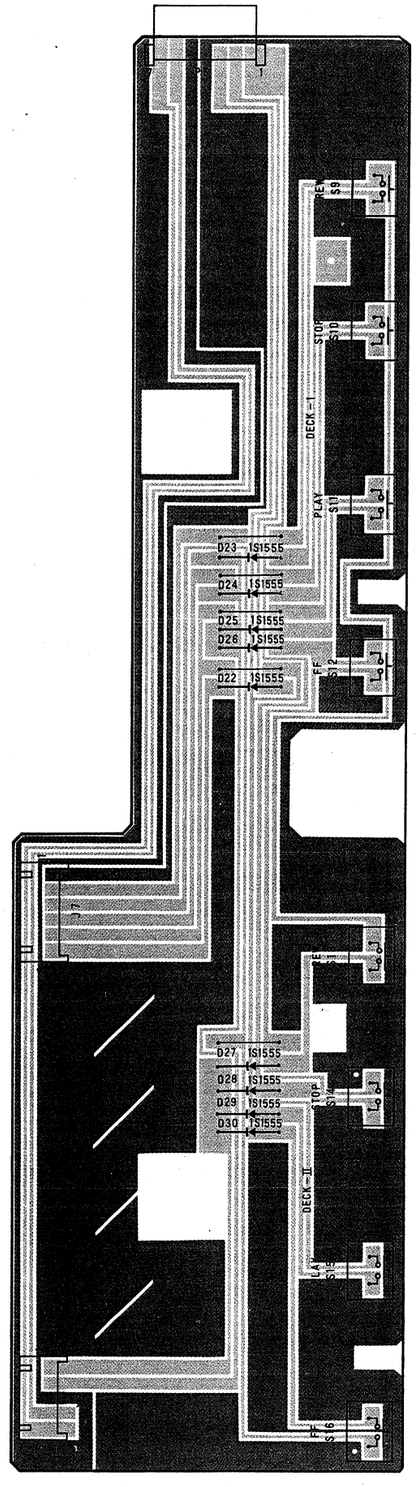
METER PCB ASSY



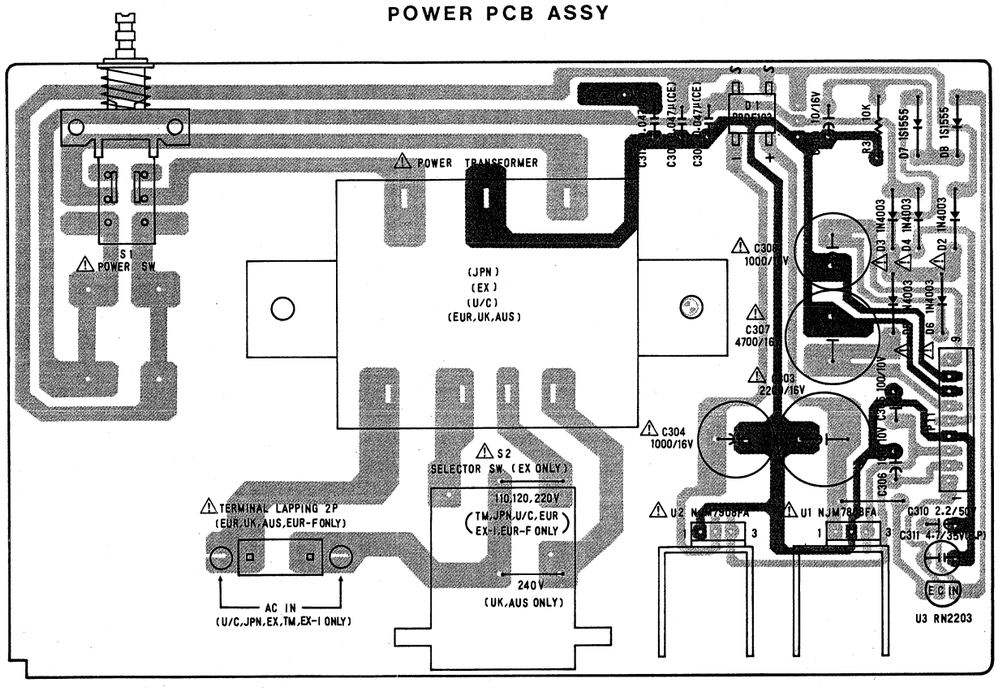
MAIN PCB ASS'Y



KEY PCB ASSY



POWER PCB ASSY



NOTES

1. PC boards are shown viewed from foil side.
2. The colors on the PC board illustrations have the following significance:
   ▭: GND
   ▭: other
3. Resistor values are in ohms (k=kilo-ohms M=megohms).
4. All capacitor values are in microfarads (p=picofarads).
5. ⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components. Refer to the appropriate parts list to ensure exact replacement.

MAIN PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	91450671-03	MAIN PCB ASS'Y
	91550671-01	MAIN PCB
U4	52204398-00	IC L78LR05D
U5	91630111-20	TR.RN2203 T.P
U6	91633103-20	TR.RN1203 T.P
U7	91630111-20	TR.RN2203 T.P
U8	91630111-20	TR.RN2203 T.P
U9	91630111-20	TR.RN2203 T.P
U10	91630111-20	TR.RN2203 T.P
U11	91633103-20	TR.RN1203 T.P
U12	91630111-20	TR.RN2203 T.P
U13	91630111-20	TR.RN2203 T.P
U14	91630111-20	TR.RN2203 T.P
U15	91633103-20	TR.RN1203 T.P
U16	91630111-20	TR.RN2203 T.P
U17	91630111-20	TR.RN2203 T.P
U18	91633103-20	TR.RN1203 T.P
U19	91670145-00	IC GLD9007-036
U20	91633103-20	TR.RN1203 T.P
U21	91633103-20	TR.RN1203 T.P
U22	91630111-20	TR.RN2203 T.P
U23	91630111-20	TR.RN2203 T.P
U24	91630111-20	TR.RN2203 T.P
U25	52204262-00	IC M51143AL
U26	91633103-20	TR. RN1203 T.P
U27	91670098-00	IC TC-4066BP
U28	91670140-00	IC uPC4570C
U29	91670140-00	IC uPC4570C
U30	91670098-00	IC TC-4066BP
U31	91630111-20	TR.RN2203 T.P
U32	52204270-00	IC CX-20187
U33	91670121-00	IC NJM4558S
U34	91670121-00	IC NJM4558S
U101 U201	91633103-20	TR.RN1203 T.P
U102 U202	91633103-20	TR.RN1203 T.P
U103 U203	91633103-20	TR.RN1203 T.P
U104 U204	91633103-20	TR.RN1203 T.P
Q301	91633094-20	TR, 2SC1815GR
Q302	91633094-20	TR, 2SC1815GR
Q303	91630099-00	TR, 2SA1015GR

MAIN PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
Q304	9163309420	TR, 2SC1815GR
Q305	9163309420	TR, 2SC1815GR
Q306	9163309420	TR, 2SC1815GR
Q307	9163309420	TR, 2SC1815GR
Q308	9163309420	TR, 2SC1815GR
Q309	9163309420	TR, 2SC1815GR
Q310	9163309820	TR, 2SC2120Y (TP)
Q311	9163309820	TR, 2SC2120Y (TP)
Q312	9163309420	TR, 2SC1815GR
Q313	9163309820	TR, 2SC2120Y (TP)
Q314	9163309420	TR, 2SC1815GR
Q315	9163309820	TR, 2SC2120Y (TP)
Q101 Q201	9163309420	TR, 2SC1815GR
Q102 Q202	9163309420	TR, 2SC1815GR
Q103 Q203	9163309420	TR, 2SC1815GR
Q104 Q204	9163310620	TR, 2SC2878A
Q105 Q205	9163309420	TR, 2SC1815GR
D9	9165020250	DIODE 1S1555 P=52mm
D10	9165020250	DIODE 1S1555 P=52mm
D11	⚠9165020208	DIODE IN4003 P=10mm
D12	⚠9165020208	DIODE IN4003 P=10mm
D13	9165020250	DIODE 1S1555 P=52mm
D14	9165020250	DIODE 1S1555 P=52mm
D15	9165020250	DIODE 1S1555 P=52mm
D16	9165020250	DIODE 1S1555 P=52mm
D17	9166032551	ZENER DIODE 05AZ8.2Y
D18	9166032551	ZENER DIODE 05AZ8.2Y
D19	9166031451	ZENER DIODE 05AZ3Y P=52mm
D20	9165020250	DIODE 1S1555 P=52mm
D21	9165020250	DIODE 1S1555 P=52mm
L301	9173004100	OSC COIL 100KHZ
L302	9122018710	COIL 1mH P=12.5mm
L303	9122018710	COIL 1mH P=12.5mm
L101 L201	9173002501	LOW PASS FILTER MPX
L102 L202	9173002700	LOW PASS FILTER 19.8KHZ
L103 L203	9122017600	BIAS TRAP COIL 100KHz
L104 L204	9122018910	COIL 8.2mH P=14mm
CR1	5347012000	OSC CERAMIC CST 4.19MGW
R31	9112019000	SEMI-FIXED VR 1K(B)
R32	9112019000	SEMI-FIXED VR 1K(B)

MAIN PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
R33	9112019000	SEMI-FIXED VR 1K(B)
R34	9112019000	SEMI-FIXED VR 1K(B)
R11 R21	9112017000	SEMI-FIXED VR 20K(B)
R12 R22	9112017000	SEMI-FIXED VR 20K(B)
R13 R23	9112017000	SEMI-FIXED VR 20K(B)
R14 R24	9112002000	SEMI-FIXED VR 100K(B)
J7	5330506600	4P PIN JACK (YKC21-0016A)
J8	9143229000	MINIATURE JACK (YKB21-5129)
P1	9140098005	BASE PIN 5P (B5P-MQ) P=2mm
P2	9140098012	BASE PIN 12P (B12P-MQ)
P3	9140098009	BASE PIN 9P (B9P-MQ)
P4	9140099005	SOCKET 5P (05JQ-ST)
P7	9140099006	SOCKET 6P (06JQ-ST)
P8	9143172000	CONNECTOR PLUG 4P (B4B-EH-A)
P9	9143176000	CONNECTOR PLUG 8P (B8B-EH-A)
S17	9136001200	TACT SW SKHHLE1510 (BLK)
S18	9136001200	TACT SW SKHHLE1510 (BLK)
S19	9136001200	TACT SW SKHHLE1510 (BLK)

JACK PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	9145067601	JACK PCB ASSY
	9155067601	JACK PCB
J5	9140100007	BASE SIDE 7P (S7B-XH-A) P=2.5mm
P6	9140098005	BASE PIN 5P (B5P-MQ) P=2mm
J9	9143190000	PHONE JACK (YKB21-5010)

DOLBY SW PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	9145067500	DOLBY SW PCB ASS'Y
	9155067500	DOLBY SW PCB
S3	5301206500	ROTARY SW 1-3 SRBV13
J1	9140097005	SOCKET 5P (05MQ-ST) P=2mm

TIMER SW PCB ASS'Y(W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	9145067400	TIMER SW PCB ASSY
	9155067400	TIMER SW PCB
S4	9134009500	TIMER SW SSSL1013NA-TK
J6	9140097005	SOCKET 5P (05MQ-ST) P=2mm

METER PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	9145067200	METER PCB ASSY
	9155067200	METER PCB
U35	5220058400	IC IR2E24
D31-D34	9165020250	DIODE 1S1555 P=52mm
D35	9174012202	LED (YELLOW) 3ϕ 204YT
D36	9174012420	LED (RED) 5ϕ 333IT/HO
D37-D40	9174012220	LED (YELLOW) 3ϕ 204YT
D41-D43	9174012320	LED (YEL) 5ϕ 333YT/HO
D44-D46	9174012420	LED (RED) 5ϕ 333IT/HO
S5-S8	9136000502	TACT SWITHC SKHHPK2510-TK
J2	9140097012	SOCKET 12P (12MQ-ST) P=2mm
J3	9140097009	SOCKET 9P (09MQ-ST) P=2mm

KEY PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	9145067300	KEY PCB ASS'Y
	9155067300	KEY PCB
D22-D30	9165020250	DIODE 1S1555 P=52mm
S9-S16	9136001200	TACT SW SKHHLE1510 (BLK)
J4	9140100005	BASE SIDE 5P (S5B-XH-A)
J7	9140100006	BASE SIDE 6P (S6B-XH-A)
P5	9140099007	SOCKET 7P (07JQ-ST)

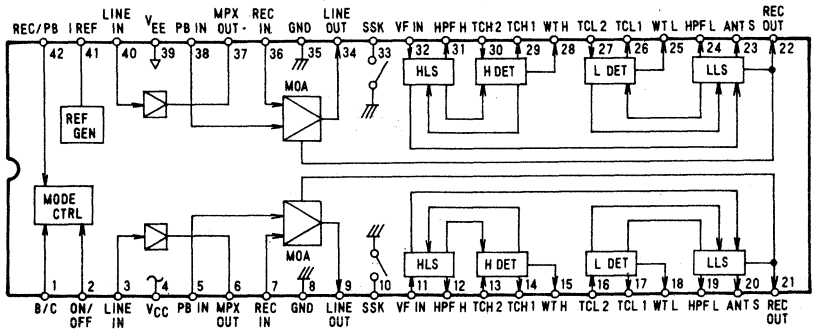
POWER PCB ASS'Y (W-470)

REF.NO.	PARTS NO.	DESCRIPTION
	9145068000	POWER PCB ASSY
	9155068000	POWER PCB
	⚠ 9125058001	POWER TRANSFORMER (U/C)
	⚠ 9125058200	POWER TRANSFORMER (EUR)
	⚠ 9125058300	POWER TRANSFORMER (EX)
	⚠ 9125058800	POWER TRANSFORMER (JPN)
S1	⚠ 9135029300	POWER SWITCH
S1	⚠ 9135031000	POWER SWITCH (U/C)
S2	⚠ 5332019900	VOLTAGE SELECTOR FS908E
	⚠ 5327009600	TERMINAL LAPPING 2P
D1	⚠ 9165021700	BRIDGE RECTIFIER PBDF103
D2-D6	⚠ 9165020500	DIODE IN4003 P=10mm
D7-D8	⚠ 9165020200	DIODE 1S1555 P=52mm
U1	⚠ 9167014200	IC NJM7808FA
U2	⚠ 9167014300	IC NJM7908FA
U3	⚠ 9163011100	TR, RN2203 T.P
P11	⚠ 9143177000	CONNECTOR PLUG 9P B9B-EH-A
C303	⚠ 9117273500	C, ELEC 2200u 16V
C304	⚠ 9117258100	C, ELEC 1000u 16V
C307	⚠ 9117302200	C, ELEC 4700u 16V
C308	⚠ 9117258100	C, ELEC 1000u 16V

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]:JAPAN

IC BLOCK DIAGRAM

CX-20187



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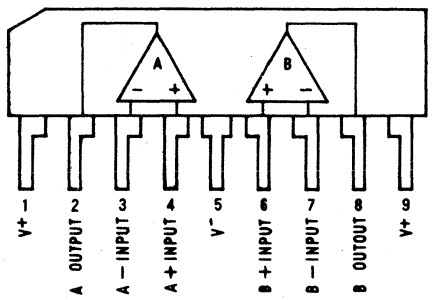

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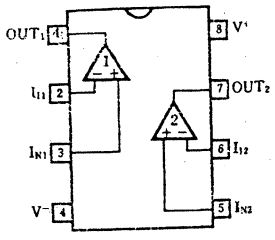

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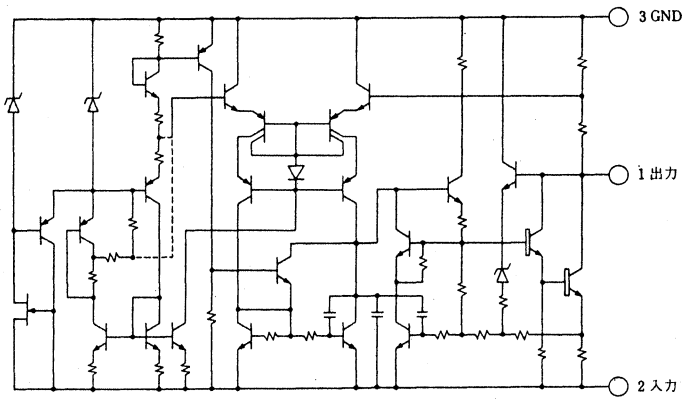
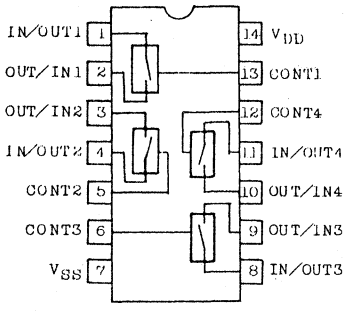


TC-4066BP



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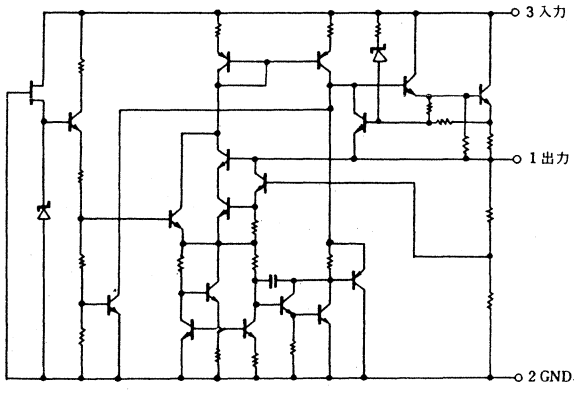
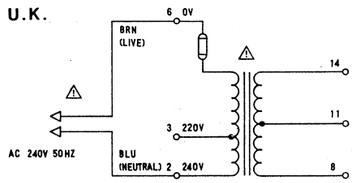
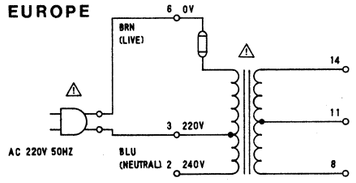


TEAC SCHEMATIC DIAGRAM W-470

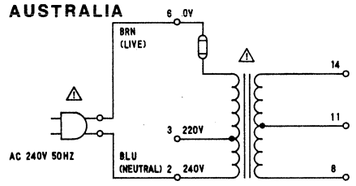
U.K.



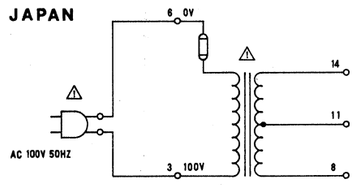
EUROPE



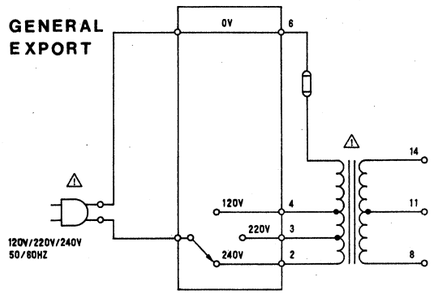
AUSTRALIA



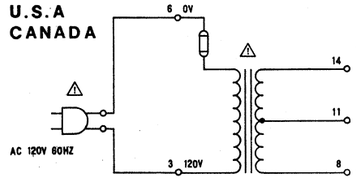
JAPAN

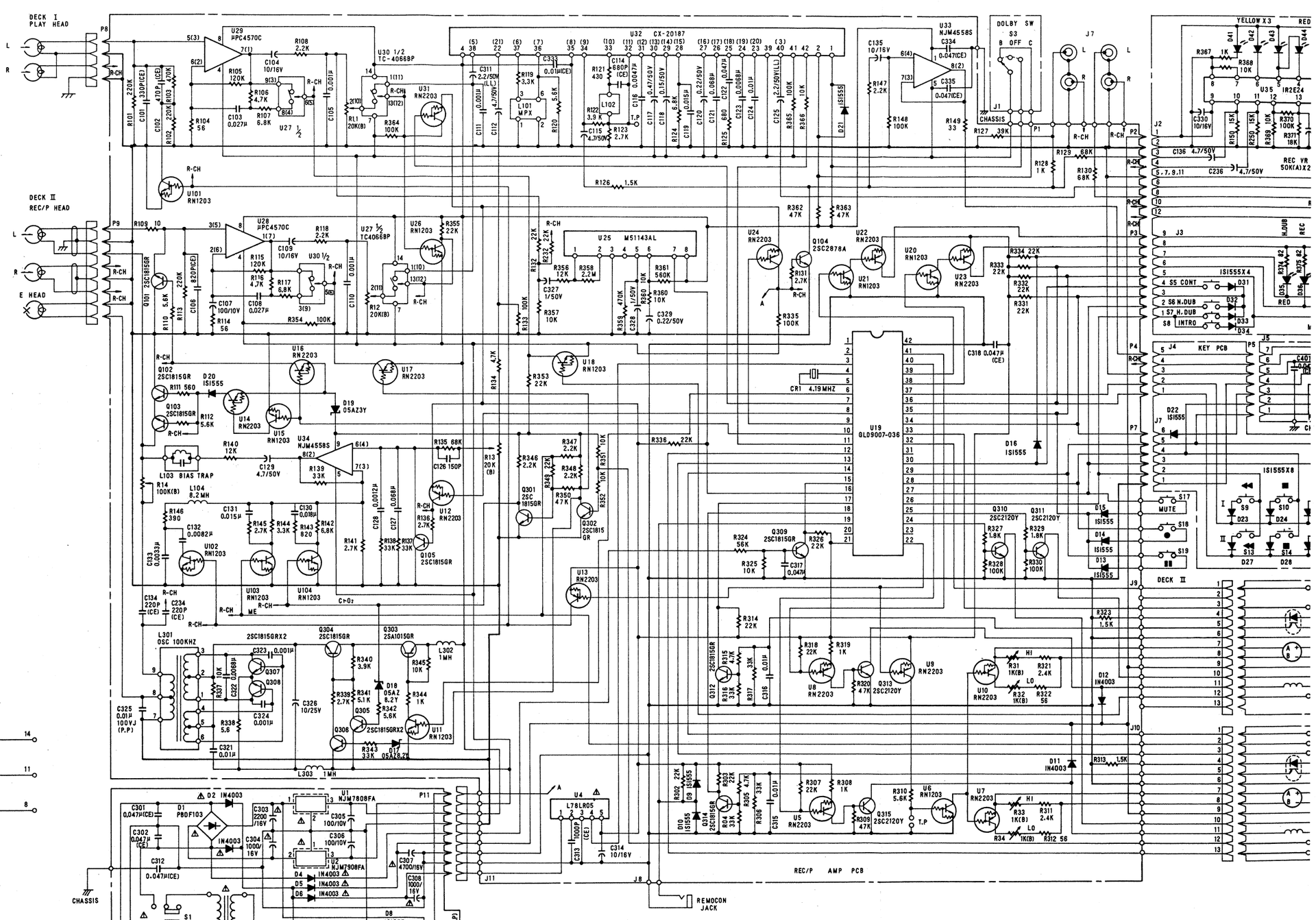


GENERAL EXPORT



U.S.A CANADA



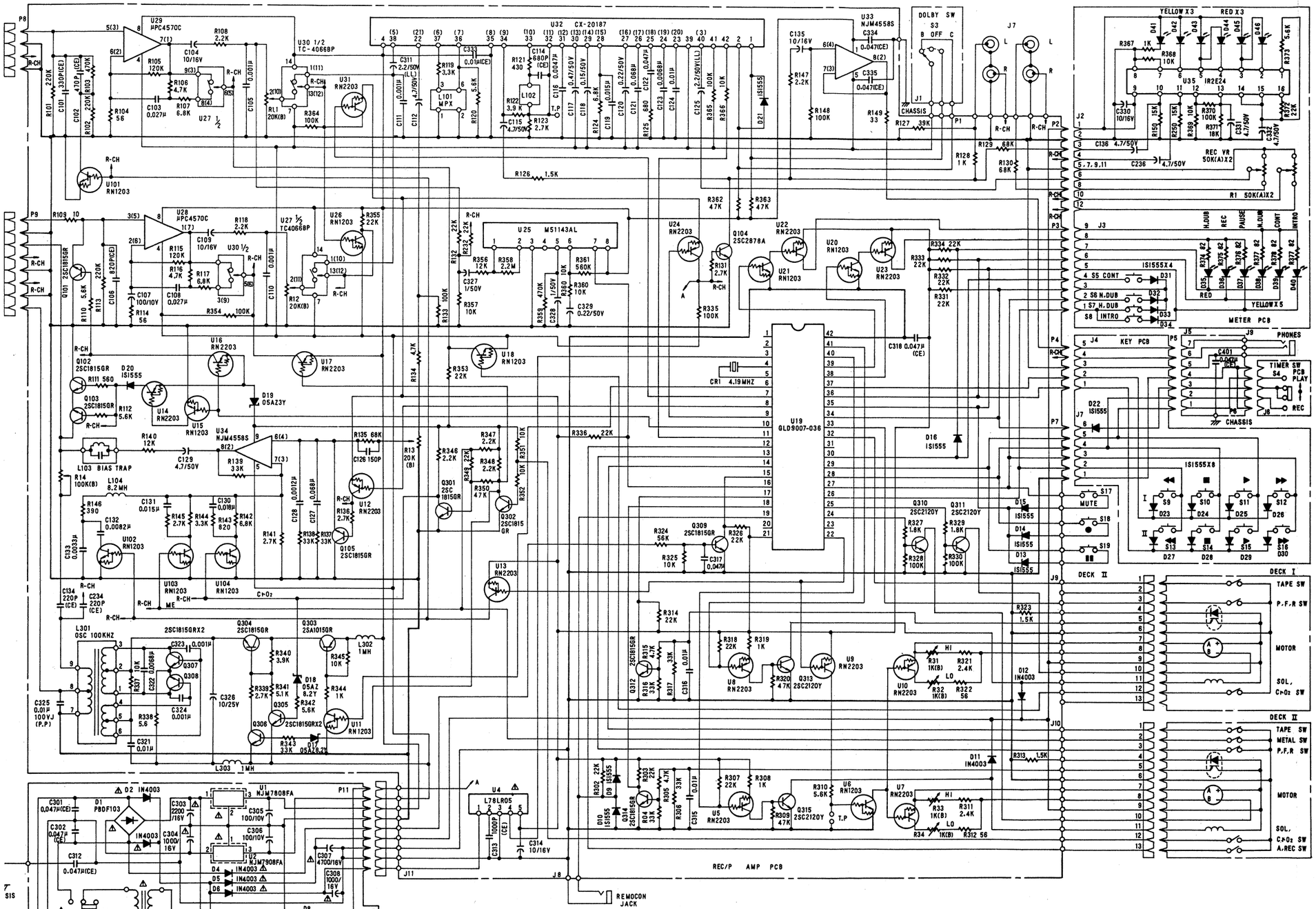


INSTRUCTIONS FOR SERVICE PERSONNEL

BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTES

1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. Voltage and signal level values are for reference only. 0dB=0.775V
4. ▭ : Front panel indication
5. ▭ : Rear panel indication
6. ⚠ Parts marked with this sign are safety critical compc They must always be replaced with identical component to the appropriate parts list and ensure exact replacement.



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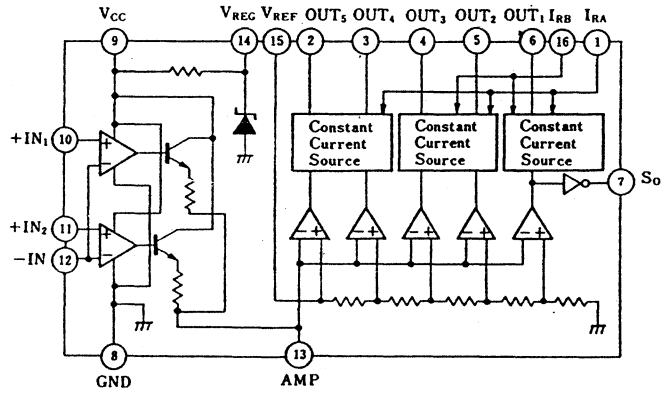
W-470

Stereo Double Cassette Deck

IR2E24



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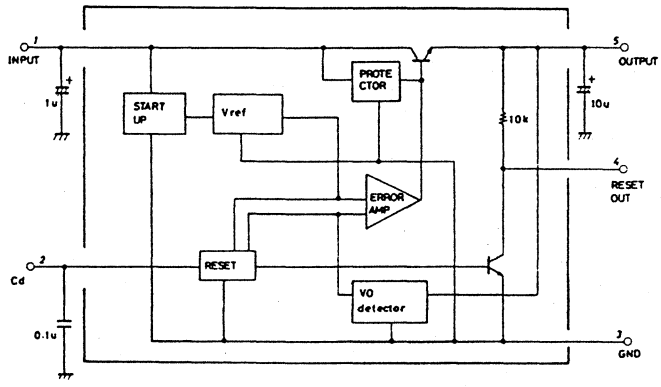

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